

Remarks

Upon entry of the foregoing amendment, claims 1-19 and 40-48 are pending in the application, with claims 1 and 11 being the independent claims. Claims 1 and 11 are sought to be amended for clarification purposes as discussed below. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections Under 35 U.S.C. § 103

The Office Action states on page 2 that claims 1-19 and 40-48 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Pat. No. 5,720,019 to Koss *et al.* (hereinafter, "Koss") in view of U.S. Pat. No. 6,169,554 B1 to Deering (hereinafter, "Deering"), and further in view of Heinrich, Joe, "MIPS R4000 Microprocessor User's Manual" (hereinafter, "Heinrich"). Applicants respectfully traverse this rejection.

Regarding independent claims 1 and 11, the Office Action states on pages 3-4 that Koss allegedly discloses the claimed steps/elements, except that Koss does not disclose "performing a magnitude comparison of absolute values" and Koss does not disclose using "compare instructions." The Office Action states that Deering allegedly discloses the magnitude comparison of absolute values and that Heinrich allegedly discloses using compare instructions.

Heinrich appears to disclose an absolute value instruction (ABS.fmt) (see p. B-13) and a floating point compare instruction (C.cond.fmt) (see p. B-19). However, neither

Heinrich nor Koss (nor any of the other cited references), taken alone or in combination, discloses a "floating point magnitude compare instruction" that can both determine absolute values and compare them, as recited in amended independent claims 1 and 11. Support for the amendments to claims 1 and 11 can be found, for example, on page 71, lines 1-9, page 73, lines 9-15, and pages 86-89 of the specification.

With respect to various dependent claim rejections, Heinrich does not disclose conversion instructions to and from a paired single floating-point format, such as the CVT.PS.PW and CVT.PW.PS conversion instructions of claims 7, 9, 16, and 18, as asserted in the Office Action. Heinrich appears to disclose a compare instruction (see C.cond.fmt on p. B-19), but Heinrich does not disclose the floating point magnitude compare instruction CABS of claims 10 and 19. Furthermore, since Heinrich does not teach a floating point magnitude compare instruction, Heinrich does not teach that the floating point magnitude compare instruction is part of a general purpose instruction set architecture or an application specific extension to a general purpose instruction set architecture, as claimed in claims 42, 43, 46, and 47.

Deering appears to disclose clip testing by executing at least two comparisons per coordinate: 1) a comparison of the exponents of the coordinate value and the W value, and 2) a comparison of the mantissas of the coordinate value and the W value. (See 624, 630A and 632A of FIG. 8, and col. 14, lines 54-65.) Neither Deering nor Koss (nor any of the other cited references), taken alone or in combination, discloses that "the magnitude comparison for each transformed coordinate involves a single comparison operation," as recited in amended independent claims 1 and 11. Again, support for the amendments to claims 1 and 11 can be

found, for example, on page 71, lines 1-9, page 73, lines 9-15, and pages 86-89 of the specification.

Thus, for at least the reasons stated above, independent claims 1 and 11, and the claims depending therefrom (claims 2-10, 12-19, and 40-48), are patentable. Therefore, Applicants respectfully request that the rejections of claims 1-19 and 40-48 be reconsidered and withdrawn.

The Office Action states on page 9 that claims 1 and 11 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Koss in view of U.S. Pat. No. 6,298,365 B1 to Dubey (hereinafter, "Dubey"), and further in view of Heinrich. Applicants respectfully traverse this rejection.

The Office Action states on pages 9-10 that Koss allegedly discloses the claimed steps/elements, except that Koss does not disclose "performing a magnitude comparison of absolute values" and Koss does not disclose using "compare instructions." The Office Action also states that Dubey allegedly discloses the magnitude comparison of absolute values and that Heinrich allegedly discloses using compare instructions.

Claims 1 and 11 are patentable for at least the reasons stated above with regard to Heinrich. With regard to Dubey, Dubey appears to disclose a bounds comparator that executes at least two comparisons per coordinate. For each coordinate, Dubey appears to disclose two separate comparisons involving the exponents of the coordinate value α and the bounds value X. (See steps 66 and 68 in FIG. 4A.) Depending on the outcome of the first two comparisons, Dubey may also need a third comparison which involves comparing the significands (fractions) of the coordinate value α and the bounds value X. (See step 72 in FIG. 4A.) Neither Dubey nor Koss (nor any of the other cited references), taken alone or in

combination, discloses that "the magnitude comparison for each transformed coordinate involves a single comparison operation," as recited in amended independent claims 1 and 11.

Thus, for at least the reasons stated above, independent claims 1 and 11 (and the claims depending therefrom (claims 2-10, 12-19, and 40-48)) are patentable. Therefore, Applicants respectfully request that the rejections of claims 1 and 11 be reconsidered and withdrawn.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

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Appl. No. 09/364,786

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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